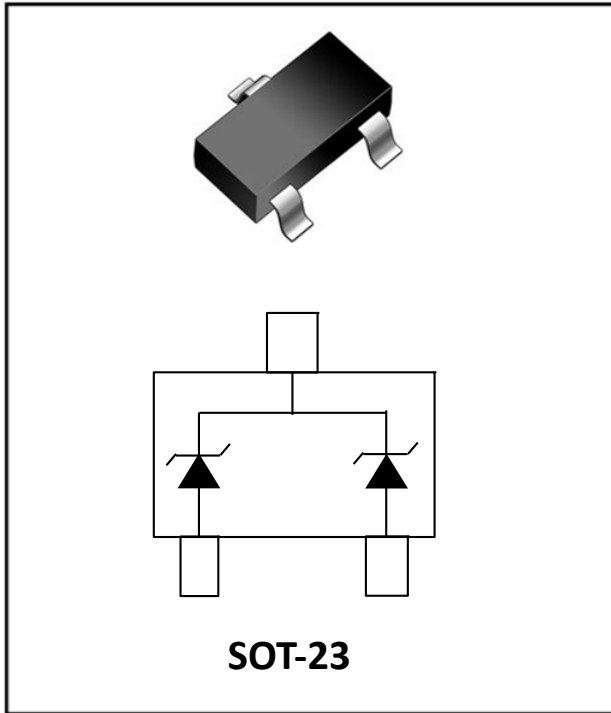


Zener Diodes, 40 Watt Peak Power Dual Common Cathode Zeners



Features

- SOT-23 Package Allows Either Two Separate Unidirectional Configurations or a Single Bidirectional Configuration
- Peak Power-40W@1.0ms(Unidirectional)
- Transient protection for each line according to IEC61000-4-2(ESD): $\pm 30\text{kV}$ contact, $\pm 30\text{kV}$ air
- ESD Rating: Class 3B($> 16\text{kV}$)per the HBM
- Maximum Clamping Voltage@Peak Pulse Current
- RoHS Compliant
- Part no. with suffix "Q" means AEC-Q101 qualified

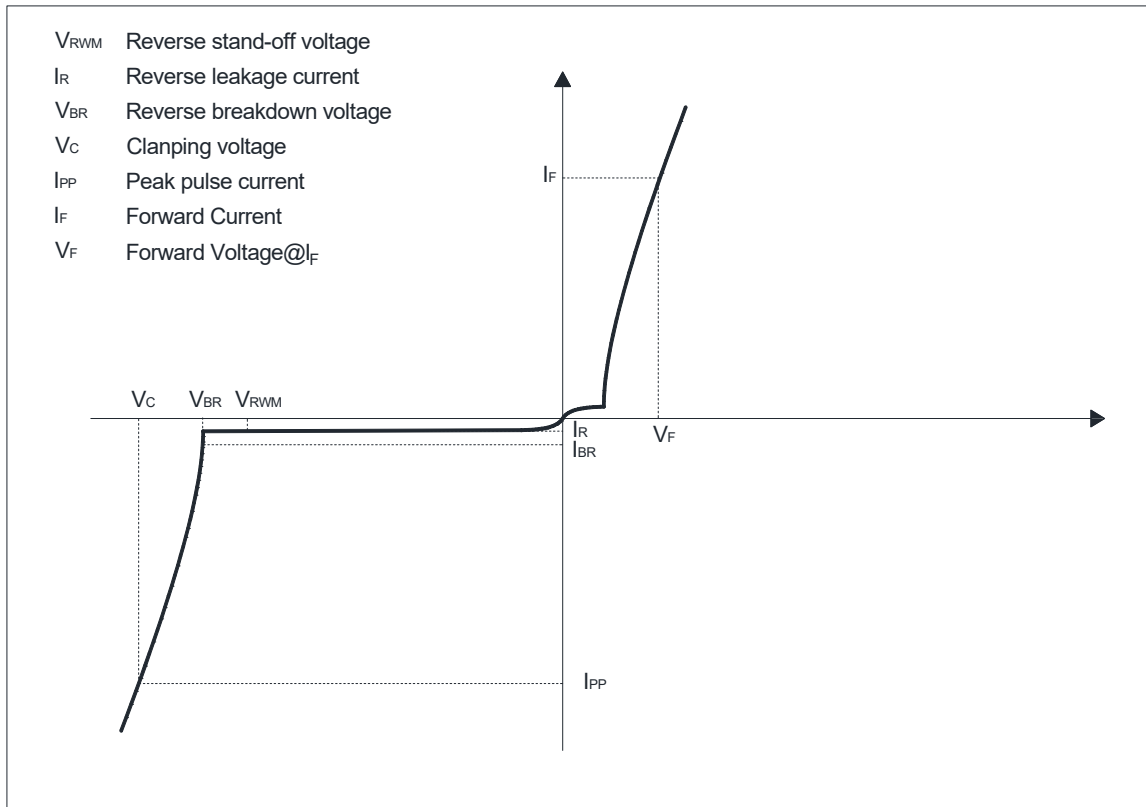
Applications

- Test Equipment/Instrumentation
- Notebooks / Desktops / Servers
- Computer Peripherals
- Automotive applications

Mechanical Data

- Package: SOT-23
- Lead Finish: Matte Tin
- Case Material: "Green" Molding Compound
- Moisture Sensitivity: Level 1 per J-STD-020

Definitions of electrical characteristics





MMBZ15VCHQ

■ Maximum Ratings

PARAMETER	SYMBOL	LIMITS	UNIT
Peak pulse power ($t_p = 10/1000\mu s$)	P_{pk}	40	W
ESD according to IEC61000-4-2 air discharge	V_{ESD}	± 30	KV
ESD according to IEC61000-4-2 contact discharge		± 30	
Power Dissipation	P_D	225	mW
Thermal Resistance Junction to Ambient	R_{thJA}	556	$^{\circ}C/W$
Junction temperature	T_J	-55~150	$^{\circ}C$
Storage temperature	T_{STG}	-55~150	$^{\circ}C$

Notes:

CAUTION: Stresses above those listed in "Absolute Maximum Ratings" may cause permanent damage to the component. This is a stress only rating and operation of the component at these or any other conditions above those indicated in the operational sections of this specification is not implied.

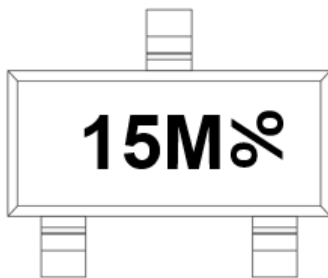
■ Electrical Characteristics ($T_J=25^{\circ}C$)

PARAMETER	Symbol	UNIT	Conditions	Min	Typ	Max
Reverse Standoff Voltage	V_{RWM}	V				12
Reverse breakdown voltage	V_{BR}	V	$I_{BR} = 1mA$	14.25	15	15.75
Reverse leakage current	I_R	nA	$V_{RWM} = 12V$			50
Forward Voltage	V_F	V	$I_F = 10mA$			0.9
Clamping voltage	V_C	V	$I_{PP} = 1.9A, t_p = 10/1000\mu s$			21
Junction Capacitance	C_j	pF	$V_R = 0V, f = 1MHz$		95	

■ Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(mg)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
MMBZ15VCHQ	F2	Approximate 10	3000	30000	120000	7 reel

■ Marking Information



Note:

1. All marking is at middle of the product body
2. All marking is in laser marking
3. Body color: Black
4. 15M% is Marking Code (%=placeholder for date code)

*Date Code vary depending upon production date.



MMBZ15VCHQ

■ Characteristics (Typical)

Fig.1: P_D - T_A

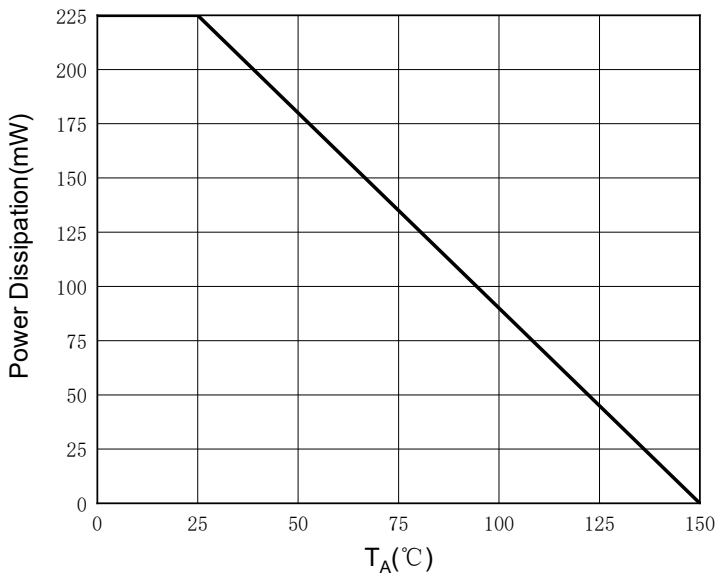


Fig.2: Typical Breakdown Voltage VS Temperature

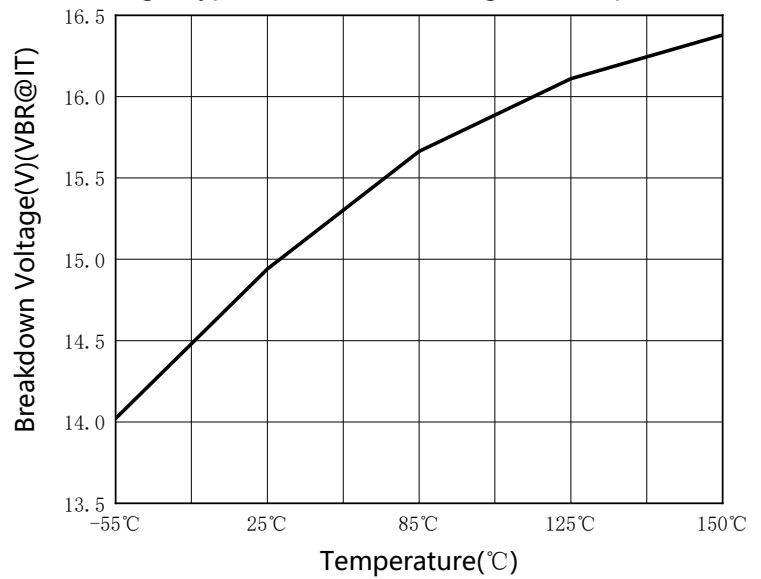


Fig.3: Reverse Characteristics

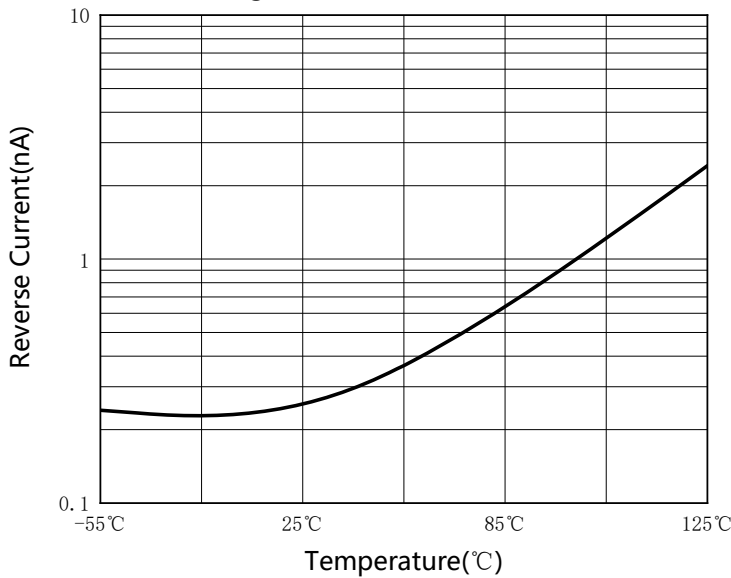


Fig.4 Pulse Waveform

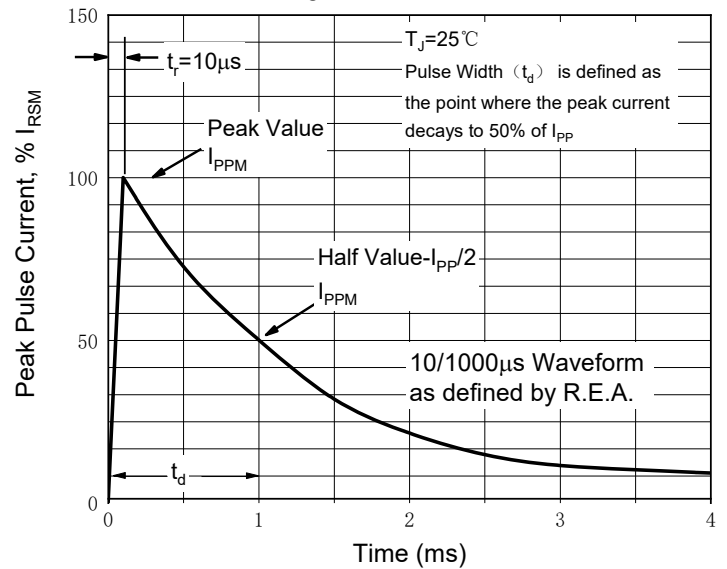


Fig.5: Power Derating Curve

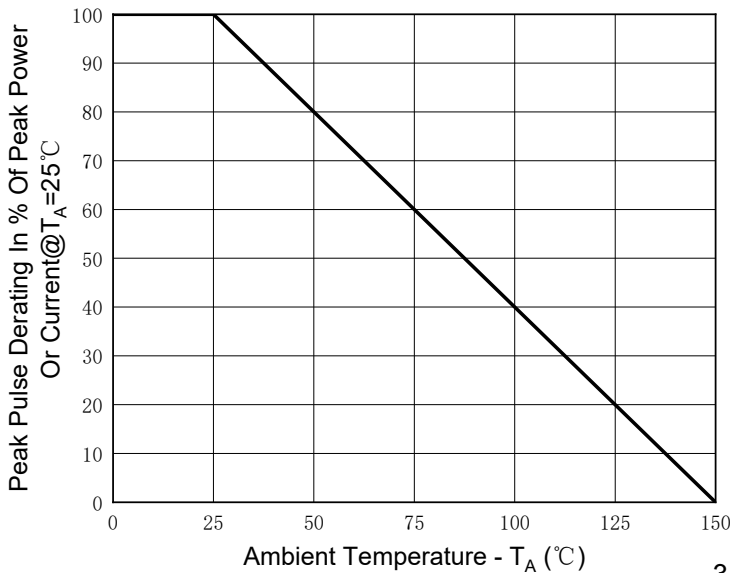
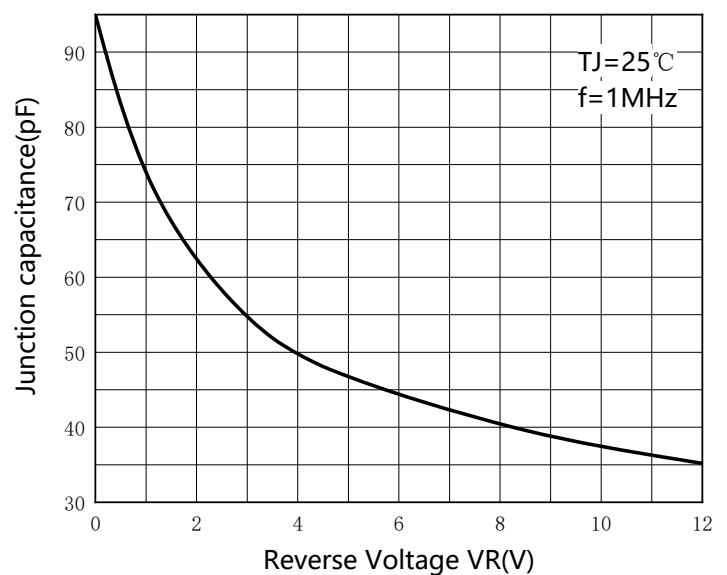


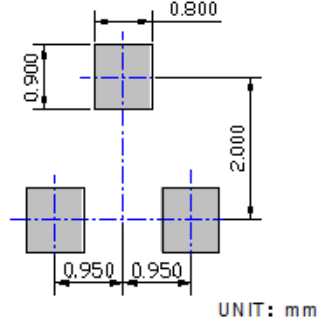
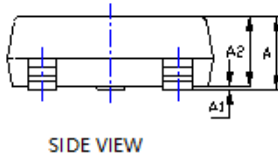
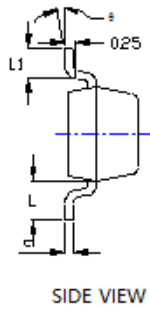
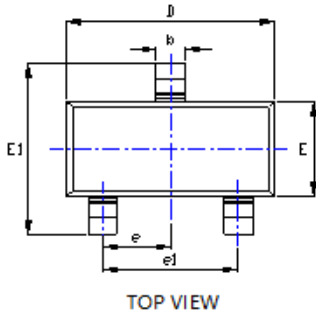
Fig.6: Capacitance Characteristics





MMBZ15VCHQ

■ Outline Dimensions



UNIT: mm

SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.045	0.900	1.150
A1	0.000	0.004	0.000	0.100
A2	0.035	0.041	0.900	1.050
b	0.012	0.020	0.300	0.500
c	0.004	0.008	0.100	0.200
D	0.110	0.118	2.800	3.000
E	0.047	0.055	1.200	1.400
E1	0.089	0.100	2.250	2.550
e	0.037TYP		0.950TYP	
e1	0.071	0.079	1.800	2.000
L	0.022REF		0.550REF	
L1	0.012	0.020	0.300	0.500
φ	0°	8°	0°	8°

NOTE:
 1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
 2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
 3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.



MMBZ15VCHQ

Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, life-saving, lifesustaining, or military, Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website [http:// www.21yangjie.com](http://www.21yangjie.com) , or consult your nearest Yangjie's sales office for further assistance.